

Amendments to the Specification:

Please replace paragraph [0106] with the following amended paragraph:

[0106] As shown in Figure 9, solids-depleted inner air layer generally indicated at 104 flows downwardly in innermost portion of transfer opening 108, while solids-enriched outer layer generally indicated at 106 flows downwardly along first perimetral wall 100 into secondary separator chamber 102. Rotating airflow indicated generally at 110 swirls around secondary separation chamber 102, further separating debris into solids enriched outer layer 106, which passes along second perimetral wall 112 of secondary separation chamber 102 into hopper 114 below. To be most effective, this rotating airflow moves with a tangential velocity of at least about 2000 feet per minute measured close to second perimetral wall 112, causing the entrained reduced lawn debris to move outwardly toward second perimetral wall 112 of secondary-separation chamber 102 by action of body forces thereupon. Second perimetral wall 112 may consist of some combination of cylindrical and frusto-conical surfaces, and is referred to as a frusto-conical outer wall section. Swirling continues in hopper 114, while infundibulate baffle 116 impedes secondary flows of air containing finely reduced debris fragments from re-entering secondary separation chamber 102. In secondary separation chamber 102, solids-depleted inner air layer generally indicated at 105 migrates upwardly along the axis of secondary separation chamber 118, through exhaust entrance 120, which passes through upper bulkhead 121, and exits through exhaust passage 122 to the atmosphere. Infundibulate baffle 116 is suspended below secondary separation chamber 102 by supporting rods 117 or by other supporting

means. If desired, deflector 125 can be placed adjacent to exit 123 of exhaust passage 122 to direct airflow generally indicated at 127 away from person operating apparatus.

Please replace paragraph [0107] with the following amended paragraph:

[0107] As most of the separation is achieved by the action of body forces on the particles of entrained debris, the flow through the separator is substantially unimpeded - in contrast to those units in which filtration is primarily relied upon to remove the particulate debris from the air-stream in which it is entrained. Hence, this separator is referred to as a free-flow apparatus. Even though a minimal filter may be placed in the exhaust stream from the separator if so desired, the flow through the separator is substantially free of obstructions which might limit the flow of air significantly if filtration were relied upon for ~~primary~~primary removal of heavy debris. Thus, the invention provides a machine which effectively separates the reduced yard debris from the air in which it is entrained, and which can be operated effectively for an extended period without either stopping to clear a filter in the separator, or experiencing decreased pick-up efficacy because of reduced air flow rate occasioned by partial blockage of a filter area.

Please replace paragraphs [0114, 0115, and 0116] with the following amended paragraphs:

[0114] Figure 13 illustrates stripping slot 72 in a closed position and forward stripping slot [[150]]151 in upper housing 38 being located in a preferred forward position. The advantage of forward placement of stripping slot [[150]]151 is that air bleed into collection duct 60 occurs for only a fraction of the rotor revolution, instead of being almost continuous as with open rear stripping slot 72. Rear upper housing segment [[152]]153 spans the equivalent of about two thirds of the arc distance between adjacent rotor tips [[154]]157. Rotor blade tips [[154]]157 move in individual proximity with rear upper housing segment [[152]]153 for about two thirds of the revolution cycle, and air bleeds through forward stripping slot [[150]]151 for only about one third of the cycle. It appears that more of the air admitted to collection duct 60 comes from flows [[156]]163 along surface 24 and less from stripping slot [[150]]151, resulting in believed greater efficiency in collecting debris from surface 24. It also appears that air flow through forward stripping slot [[150]]151, through rotor cavity [[158]]159, and into collection duct 60 has more action in stripping leaves from rotor cavity [[158]]159 than would air flowing through rear stripping slot 72 and into cavity [[158]]159. However, even with airflow through forward stripping slot [[150]]151, rotational secondary flows [[160]] were detected as generally indicated at [[160]]161. These secondary flows appeared to enable leaves to stay in rotor pockets [[158]]159 and carry over to open front 162 of the housing, where they were re-deposited on surface 24.

[0115] Figure 14 illustrates convex fillets 164 being used instead of flat fillets 73 shown in Figure 2. Convex fillets 164 define thinner rotor cavities 166 that are generally concentric with rotor shaft 40 and which exhibit greatly reduced or no detectable macro-scale eddy flows upon airflow through forward stripping slot [[150]]151. One could use fillets having generally concentric, generally convex surfaces having a number of small flat, dimpled, or other shaped surfaces, and still achieve a generally convex cavity space. The shape and dimensions of said convex fillets should be chosen such that any substantial, detectable local flows generally indicated at 168 move rearward from forward stripping slot [[150]]151 to collection duct 60. Forward carryover and re-deposition of leaves were greatly reduced with use of convex fillets 164.

[0116] An alternative construction of rotor 170 is illustrated in Figure 15. One skilled in the art will recognize that as an alternative to constructing rotor 128 with blades 42 as in FIG. 10, and convex fillets 164 as in Figure 14, one could employ a tubular member 172 concentric with rotor shaft 40 and having means 174 for attaching rotor blade tips 44 (FIG. 10) or raking tips 144 (FIG. 12).